Small Unmanned Aircraft System (sUAS) Aviation Training/Safety Manual

Springdale
Land & Game Management

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Purpose

This Springdale Land & Game Small Unmanned Aircraft System Aviation Training Manual outlines, introduces, and provides the requirements and procedures for qualification as a Springdale Land & Game, Small Unmanned Aircraft System Pilot for the current approved aircraft in accordance with all regulatory approvals. It serves as a guideline for required elements in contractor training curricula to satisfy requirements for flight on behalf of the District. It also outlines the understanding and expectations for training to operate small unmanned aircraft systems (sUAS) in compliance with all Federal, State, Local, and District requirements.

The topics covered in this manual include the knowledge, skills, and abilities requisite for safe flight as determined by the District. All Pilots-in-Command (PICs), Visual Observers (VOs), and Payload Operators (PO) must meet the requirements contained in this manual before taking part in commercial flights before approval from a qualified instructor.

Safety is considered above all mission focus, and therefore it must be recognized that all elements included in this manual are done so to develop and mature safety. Safety requires continued development and attention and therefore training has been included in this manual.

Objectives

- Ensure safe and effective sUAS aviation training in support of Springdale Land & Game operations meeting all regulatory, and organizational requirements.
- Standardize unmanned aircraft crew member communications and operations through an ongoing training program (in accordance with AC 107-2).
- Facilitate the ability of personnel from different contractors to develop training programs that meet Springdale Land & Game requirements.
- Provide quick and easy documentation for successful flight operations including, but not limited to, checklists, AIR response plans, and reporting tools.

Authority

All sUAS flight operations conducted either by Springdale Land & Game employees are subject to the policies and procedures included in this training manual. Should the AOM policies and procedures differ from those included in this Manual, the District will be notified immediately for resolution.

Any conflict between this manual and applicable Federal Regulations, District's approvals and operations specifications is unintentional. Should a conflict be discovered, the regulation, approvals, or operations specifications will take precedence, and the Springdale Land & Game Manager will be notified immediately.

All aircraft flown in support of Springdale Land & Game will be operated in accordance with the Manufacturer's User Manual. If a conflict arises, the manufacturer user manual will take precedence and Springdale Land & Game should be notified of the conflict.

Distributions & Revisions

The training manual will be made available to all personnel involved in flight operations, their management, and Springdale Land & Game representatives as well as pilots flying in support of Springdale Land & Game and should be available for all operations. A copy must be kept with the operator crew as part of an "operations kit" in either digital or hardcopy. The original training manual copy will be kept and maintained by the Springdale Land & Game Manager.

The Springdale Land & Game Manager will revise the training manual as needed and will notify employees and contractors when changes have been made. For changes of a more immediate nature, particularly those involving safety, the company will use Operations Memos to supplement, but not change, the guidance contained in the training manual. Operations Memos will not be issued with an expiration date, and will periodically be reviewed for validity and pertinence, and for potential incorporation into the training manual or for cancellation. Operations Memos will be provided via e-mail, hardcopy, or newsletter and made available to all operators. All significant revisions will be documented and maintained in the revision section of the training manual.

Safety

> ***Safety is the mission and top priority***. The policies and procedures in the operations manual are primarily designed to enhance safety. Deviations from these policies and procedures should *only* be made in extraordinary circumstances and when prior approval, when possible, is obtained from the District. Other violations of these procedures may result in permanent removal from Springdale Land & Game worksites, and, for contractors, contractual termination and possible financial penalties.

- The continuous pursuit of "no harm to people or property;"
- Promoting a culture of open and voluntary reporting of all safety risks through "Just Culture"
- Developing effective safety, environmental, and health management policies and systems;
- Conducting regular audits of safety objectives, policies, practices and procedures;
- Ensuring compliance with all Federal, State, and Local regulations;
- Providing the necessary company resources to support these policies.

Qualifications

A qualified remote pilot will be a pilot within the Springdale Land & Game organization chosen based upon overall flight experience, experience in the type of sUAS used by Springdale Land & Game, and related training. Their demonstrated performance in the field will be an important qualification for becoming a qualified pilot. A pilot will be designated by Springdale Land & Game management and based on flight time on the system being used, and previous performance in the UAS industry. There may be more than one qualified

throughout the organization and it is the intent of Springdale Land & Game to enable all pilots to be qualified to help train others. They will also meet the following criteria:

- sUAS experience
- Remote pilot 107
- Aerial applicators license
- Aquatic applicator license
- Experience in type
- Training in simulators if possible
- Previous UAS qualifications
- Knowledge of the Springdale land & Game mission
- Demonstrated performance.

Safety Equipment

1. UAS flight crew personnel would be required to wear minimal Personal Protective Equipment during flight operations. This equipment should include class II safety vests, hard hats (optional), and eye protection(optional) at a minimum. Certain missions will require the use of work/hiking boots and cut resistant gloves.
2. Other safety equipment for the flight crews: two-way radios (optional), First Aid kit (required), fire extinguisher (optional).

Training

Remote Pilot in Command (RPIC)

- All operators seeking to begin training will hold either an FAA RPIC 14 C.F.R. 107 Certification or Temporary Certification.
- supervised flight training program that includes no less than three (3) successful "mission specific" training flights using "hands-on" (Non-automated) flight methods
- supervised flight training program that includes no less than three (3) successful "mission specific" training flights using "hands-off" (automated) flight methods
- supervised instruction regarding maneuvers that test knowledge and response when encountering emergency or unsafe conditions which may arise.
- focused training that includes local area knowledge applicable to sUAS operations

Visual observer (VO)

VO will have annual training which will include day and night operations. Training will consist of the following prior to being assigned to a Springdale land & Game RPIC:

- Knowledge to recognize and overcome visual illusions

- Understand the Springdale Land & Game operation
- 14 CFR Part 107 Regulations
- Understand all terms and provisions of UAS waivers
- Understand VO responsibilities

Recurrent Training

Each RPIC must complete an annual review and refresher class every 12 months to ensure proficiency in the sUAS as well as aeronautical knowledge relevant to the mission tasking. The recurrency training date shall be based upon the last day of the month in which the proficiency flight is accomplished. The recurrent training requirements will be determined by the qualified pilot and documented in the RPIC records. At a minimum, the recurrent training will include an aeronautical knowledge exam along with a "simulated mission" currency flight administered by the QIP. Recurrent training will be documented and kept in the PIC's file. Topics that should be included in the proficiency flight are:

- Flight Planning.
- Mission Briefing.
- Ground Procedure.
- sUAS Launch
- Normal and Emergency maneuvers.
- Post Landing Procedures.
- Mission Debrief.

Flight Training

Initial training will provide the knowledge, skills, and abilities to fly sUAS in the National Airspace System in a manner consistent with the latest Federal, State, and Local regulatory environment, and Springdale land & Game policies and procedures.

The following section illustrates the basic knowledge that RPICs will be required to exhibit prior to accepting operations. It must be noted that all elements of the flight crew – Payload Operator, RPICs, and Safety Officer/Visual Observer – require different training and that training in one does not denote qualification in another. Qualifications for each position will be tracked and managed by Springdale Land & Game and ideally each member of the flight crew should be able to take over for the other, which is why VOs should be trained as pilots as well.

Pre-Flight planning & Authorizations

The Springdale Land & Game Manager will receive all sUAS operational requests via the service request form developed and maintained by Springdale Land & Game. They will then conduct an initial assessment to ensure the location and time requested complies with regulatory and airspace restrictions in accordance with the training manual.

The Springdale Land & Game will assign the flight operation to an approved, current, and available pilot for the operation and notify them of any safety concerns identified in the assessment.

The RPIC will confirm with Springdale Land & Game that a Notice to Air Men (NOTAM) is filed not later than 24 hours prior to the operation if deemed necessary (not required under 14 C.F.R. 107 regulations, but may be for higher risk environment approvals such as flights over people, BVLOS, or night flights) and provide any other guidance to the assigned pilot for the situation in the area (potential aircraft, ground traffic, site-hazards previously mentioned, monthly safety items that may be relevant).

Operations Knowledge

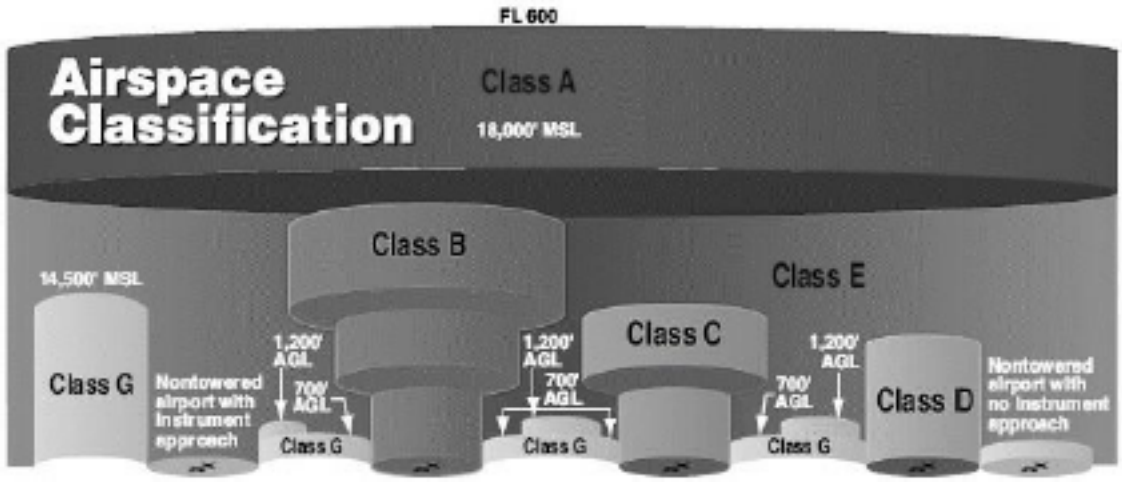
All phases of flight will be trained to, and all RPICS will be considered current and "flight ready" for the following phases of flight according to the policies and procedures of this manual. The specifics of these flight phases will be outlined and approved per the sUAS being certified to and derived largely from manufacturer user manuals.

- On-Site Pre-Flight
- Launch of sUAS
- Landing of sUAS
- Post-Flight

Airspace Classifications

Basic aeronautical knowledge, as it pertains to all aviation, should be known including all airspace classifications. This knowledge will be acquired through the 14 C.F.R. 107 sUAS Pilot Licensing Exam and preparation.

RPICs should be able to explain what airspace they are permitted to operate in, under what regulation, exemption, or authorization and what may happen if they enter other types of airspace.



Flight Restrictions

Flights are restricted to Line of Sight Operations only unless specifically approve by Springdale Land & Game Manager upon receipt of approval or waiver for 14 C.F.R. 107.

Battery Safety

Lithium-ion (Li-ion) batteries are common in UASs. "A lithium polymer battery, or more correctly lithium-ion polymer battery (abbreviated variously as LiPo, LIP, Li-poly, and others), is a rechargeable battery of lithium-ion technology in a pouch format. Unlike cylindrical and prismatic cells, LiPos come in a soft package or pouch, which makes them lighter but also less rigid. The difference between a lithium battery and a Li-ion battery is that most Li-ion batteries are rechargeable. Li-ion batteries can be dangerous under some conditions and can pose a safety hazard because they, unlike other rechargeable batteries, contain a flammable electrolyte and are kept pressurized. In 2013, at least four aircraft suffered electrical system problems stemming from Li-ion battery use, and in at least two instances the batteries started fires. Therefore, it is extremely important that all Li-ion batteries be handled in accordance with the manufacturer's recommendations. Even when fires have not resulted from Li-ion battery use, Li-ion batteries have been known to show signs of battery fatigue, including overheating and bloating of the battery cells. Misused or faulty batteries can lead to inconsistent power supply to the system. The aircraft may also experience erratic flight, loss of control authority, or premature landing due to improper amperage or low voltage spikes. A battery log will enable the operator to keep track of battery parameters like voltage before and after the mission. All batteries should be maintained by following guidelines in the UAS operator's manual.

Safe Battery Transportation

Most people are unaware that Li-ion batteries are dangerous goods that can pose a safety risk. Concerns are so great that there are in fact regulations for their safe transport, and the International Civil Aviation Organization (ICAO) Council Air Navigation Commission has even taken the extreme step of prohibiting Li-ion batteries as cargo on passenger aircraft. [International Air Transport Association. However, for the purposes of field use, Li-ion batteries can be transported in stainless steel or plastic battery boxes capable of containing any free liquid. The battery holder should be securely fastened, and the battery protected in such a manner as to prevent damage and short circuits. If possible, tape over the battery terminals and cables before transport.

Pre Flight Briefing & Inspections

Flight planning, briefing, and area assessment is a fundamental part of the sUAS flight process to achieve safe and efficient conditions. All sUAS flights conducted by the RPICs will be planned and briefed in accordance with the Springdale Land & Game procedures.

A Pre-flight inspection should be conducted by both the RPIC and VO according to the Manufacturer User Manual.

The pre-flight inspection should, at a minimum, identify and confirm the operational condition of the following:

- Rotor Blades
- Motors
- Batteries
- Mechanical Dynamic Components (each single rotor)
- Autopilot systems
- Remote control
- Landing gear
- All Wires & Connections

The crew briefing is normally the last formal briefing prior to sUAS flight and should be conducted by the RPIC with all crew members involved in the flight present for the pre-flight briefing.

The pre-flight briefing should cover the following:

- Weather
- Operation flight plan
- Mission rules and limitations, including any needed “go and no-go” criteria
- Aircraft status
- Crew coordination items
- Risk assessment
- Emergency procedures

- Warning and return to home battery levels (20% and 15% currently)

Lost Link Procedure

Any aircraft that fails to respond to positive control, due to any assumed condition, and does not respond within 30 seconds will be considered “Lost Link” and directed to land as soon as is safe. The direction to land will take place even if control is regained after that 30 seconds.

Lost Link can indicate high electromagnetic interference in the area and therefore must be well documented during flight debrief. While it alone is not an emergency condition, it often indicates the potential for signal degradation and should not be taken lightly. The Lost Link event should be documented and reported to Springdale Land & Game management after the flight but does not need to be broadcasted on the local area frequency unless it becomes a Fly-Away event.

The RPIC may choose to land immediately at the sUAS current position, or return to the takeoff/landing position at their discretion and in the interest of safety. The RPIC should consider all crew member communications in the decision to land or continue. All flight decisions should be made with safety as the main priority.

Fly A Way

This failure condition occurs when the sUAS fails to respond to any control system commands and proceeds on a route unknown to the pilot. This failure condition creates significant risk to other aircraft and persons and is therefore considered a reportable event to all air traffic in the area and Springdale Land & Game management. If VLOS is compromised during a Fly-Away condition an emergency call will be given on the local FX broadcast.

In the event of a Fly-Away the following procedure should be followed:

1. Switch to Direct Control or ATTI Mode.
2. Check for control response and return to the recovery/landing area.
3. Initiate Return to Home Function if control is not established.

The RPIC is responsible for calling the control tower of any affected airport if control is not regained or if the flight is not terminated.

Loss of Payload

Loss of payload control is not an emergency condition, but often indicates interference with signal from an unknown source. This can indicate signal degradation and the RPIC should be notified by the Payload Operator (if one is in use) as control is degraded, latency between input and execution of

commands increases, or otherwise the payload acts strangely. As the flight is focused on mission completion, the inability for payload operation negates the need for the mission to continue.

If at any point the payload becomes inoperable or difficult to control, the Payload Operator should communicate that loss to the RPIC. The RPIC should consider the mission unable to complete and begin return to launch/landing procedures. If payload control is regained, the mission may continue but the loss or degradation should be documented during the post-flight debrief.

Unexpected People in Flight Area

All persons within 500' radially from the operating environment will be appropriately identified and warned prior to the first flight in which they are present to develop their understanding of potential hazards with sUAS operations. The warning will include operational information, privacy concerns, emergency procedures, smoking and cell phone policies, the use of fire extinguishers, communication procedures for interacting with the flight crew, safety protocols, and headset usage as is reasonable in the environment of operation.

Persons in the area do not need to receive a full briefing on subsequent flights during the day, but the Visual Observer or other non-RPIC crew member will ensure that these persons understand and comply with all briefing directives.

The RPIC will not take off until they have received verbal or visual confirmation that all persons in the operational environment are not at risk from launching the sUA. Likewise, the RPIC will not land until they have received verbal or visual confirmation that all persons are not at risk from landing the sUA.

If unexpected people or vehicles on the ground enter the area, all efforts will be made to avoid flying directly over or near those vehicles and/or people. If traffic increases to an unsafe level, the RPIC will land the Aircraft as soon as it is considered safe and shall not launch again until the unexpected people leave the area. If they do not leave, the VO has the responsibility to engage with the individuals to ask them to move to a different location in the interest of safety. If they will not move, operations should be halted and Springdale Land & Game UAS Advisor should be contacted to discuss further options.

Safety

Dedication to safety is identified in the foreword of the Flight Operations Manual, however further safety policies and principles are identified below to explain the responsibilities and authorities for operational safety.

- Safety is a vital duty and responsibility for every job function relating to operation.

- Even personnel without direct flight operations involvement contribute to hazard identifications at all levels of an organization and every person can have a positive impact on safety.
- Safety is always given the top priority, even above mission success.
- Every individual within Springdale Land and Game LLC and contractor operations will perform with concern for safety at all time.
- The RPIC has exclusive and final authority for proceeding with any flight operation or test, and will consider resources made available to them. The RPIC may delegate some safety responsibility for flight termination to accompanying VO or other crew members, however the RPIC is ultimately responsible for the outcome of flight.
- All RPICs should understand the importance of listening to their other crew members, and be encouraged to heed safety concerns from their crew.

Safety Assurance

Overall performance of the Safety Management System will have a direct result on the safety, efficiency, and performance of Springdale Land & Game and contractor sUAS operations. Often the Safety Assurance element incorporates the fundamental understanding of a Quality Management System (QMS). Though Springdale Land & Game is still testing and evaluating several QMS systems (including airdata.com), currently data is collected via flight data programs and hardcopy. This program continues to evolve, and contractors are expected to maintain all flight data for deviations from anticipated flight plans, procedures, and policies.

The goal of the safety assurance program is to track the overall safety performance of sUAS operations and encourage confidence in the way all sUAS operations are being run.

To ensure that the SMS program is functioning appropriately, hazards are being identified before they become incidents, and that the operation is continuing to focus on safety development rather than safety results, the following four major components exist to collect data beyond Flight Data Analytics.

- **Inspections --** Springdale Land & Game will conduct internal inspections to establish if the SMS is continuing to meet the needs of the organization and overall safety goals. At least once per year, the Springdale Land & Game Manager will conduct internal review of Springdale Land & Game and contractor operational processes to include the following:
  - Maintenance and inspections processes, checklists, airframe and component lists, ground control condition, parts and material control, documentation, and technical data management.
  - Certification and qualification systems
  - Training requirements and performance records - Flight Operations data and documentation

- **Audits --** Verifying compliance with the operations manual, standard operating procedures, and policies is vital to ensuring that the SMS program is functioning effectively. Audits are an integral component to the SMS program and must cover all aspects of operations, support, and infrastructure to ensure completeness.

  The Springdale Land & Game Manager will ensure regularly scheduled Springdale Land & Game audits, and contractor audits, will be performed at a minimum bi-annually to examine the performance

and effectiveness of risk mitigation strategies and controls. Springdale Land & Game may delegate evaluation to inspectors for the auditing process, though the Springdale Land & Game -is responsible for the following:

- Scheduling and communicating audit evaluations
- Recording and reporting results to personnel
- Maintaining documentation relevant to the audit –
- Safety audits will cover the following areas and evaluate them for relevance, effectiveness, organizational structure, and impact.
- Safety policy & safety culture
- Key personnel and their functions responsible for safety
- Effectiveness of hazard identification
- Risk management process success
- Safety Assessment Procedures & Documentation

All audits must be conducted in an objective and unprejudiced manner, with auditors who are not assessing their own work, and with findings that are well documented, communicated, and archived for a minimum of five (5) years. Springdale Land & Game manager is responsible for ensuring that these requirements are met through engaging internal and external stakeholders who are equipped for such responsibilities. The processes and procedures recognized as needing change should be considered by Springdale Land & Game manager and communicated to all parties as to the decision for each finding.

- **Investigations -** Mishaps, Incidents, Accidents, and other events will be investigated as required in cooperation with authorities and in alignment with Springdale Land & Game corporate policy. Information gathered in the course will populate briefings to further the interests of safety for all Springdale Land & Game UAS operations.

  Each safety investigation will be led by the Springdale Land & Game Manager and will include the following elements within any Springdale Land & Game and contractor report. These elements may also be applied to the audit process for eliminating nonconformities.

  -Analysis focused on determining the "root cause" of the event
  - An understanding that "human error" is not a root cause, but reflects latent conditions that lead to an active error.
  - An analytical and systematic approach to accident causation
  - A detailed report of all findings that includes specific recommendations for reducing the effects or probability of the event occurring in the future

- **Performance Monitoring, Data Analysis, Change Management** – Understanding safety impacts through monitored change, and data that reflects a need for change, is only helpful in an environment in which change can be managed**.** With any organizational, operational or procedural change, new hazards may arise and therefore a process for addressing those is extremely important.

Springdale Land & Game recognizes the need for positive change management and has therefore created and therefore outlines the following requirements:

- Identify any new hazards that may arise from any change, and assess that hazard for new risk to the operation
- Identify any need for new procedure, process, or checklist item that may mitigate that risk if the risk is deemed unacceptable
- Follow the change management process in order to update the document with changes as needed
- Communicate all changes to Springdale Land & Game, contractor, and/or personnel to whom it may affect and provide listing of all changes in a monthly safety briefing.

Accident/Incident Reporting

The safety of those involved in any suspected incident or accident is the first priority. Response to any such incident or accident will include the coordination of emergency response and medical care if necessary. All members of the Springdale land & Game, contractors, and departments involved in flight operations should be familiar with the operations manual.

Crew Safety

All personnel who regularly interact with sUAS during their work will complete a Springdale Land & Game Safety training manual review.. Alternatively, on a case-by-case basis, the RPIC or their designee can provide on-site safety training prior to any sUAS operation(s) as needed. Employees and contractors are expected to question any unsafe condition or activity in and around the operating environment and will not initiate launch procedures for sUAS if they have any question or concerns about the safety of the crew, public, or the planned operation.

Aeronautical Decision Making

Traditionally, the belief was that good decision making in aircraft flight operations came from experience rather than training and cannot be taught, however recent studies have shown that by using checklists and understanding how to interpret signals, better decisions can be made without long careers in aviation. This is vital knowledge for new and old pilots alike. Aeronautical decision making is grounded in the following 6 steps identified by FAA the in Advisory Circular (AC) 60-22, re-iterated in the qualification for 14 C.F.R. 107 certification.

1. Identifying personal attitudes hazardous to safe flight.
2. Learning behavior modification techniques.
3. Learning how to recognize and cope with stress.
4. Developing risk assessment skills.

5. Using all resources.
6. Evaluating the effectiveness of one's skills.

Safety Risk Assessment

When conducting a risk assessment, identify the present risks and look for ways to mitigate the hazards they create. Pre-flight familiarizations, inspections, and actions can be accomplished as part of an overall safety risk assessment. FAA encourages the remote PIC to complete the overall safety risk assessment as a method of compliance with the prohibition on operations over certain persons and the requirements to remain clear of other aircraft. Flight operations should be conducted at least 30 ft. from all nonparticipating persons, structures, vehicles, and vessels unless:

1. Barriers, structures or setbacks are present that sufficiently protect nonparticipating persons from the UAS and/or debris in the event of a mishap. If a situation arises where nonparticipating persons leave such protection and are within 30 ft. of the aircraft, flight operations must be terminated immediately in a manner ensuring the safety of nonparticipating persons.

2. The owner/controller of any structures, vehicles, and/or vessels has granted permission for operating closer to 30 ft. of those objects, and the operator has made a safety assessment of the risk of operating closer to those objects and determined that is does not present an undue hazard.

Crew Resource Management

"Crew Resource Management" is fundamental to safe and effective flight in all aviation. It is the key to understanding the "total crew concept" underlying the core of all safety operations. Each crewmember is trained to do their job, to demand that other crew members do theirs, with each monitoring the other, and giving assistance on demand or soliciting assistance, as necessary.

Any person can make a mistake or error, and no one is to be considered the master of all emergencies. Each crewmember must continuously monitor all that goes on in relation to the aircraft; they must speak up when discomforted and advise when advice is needed regardless of title, experience, or seniority. Leaders understand that crew communication is what makes the mission successful.

All crewmembers operate as a team, with the RPIC responsible for team management. Crewmembers are not, however, required to comply with any procedure, technique, or other action that they believe is unauthorized or unsafe. If a crew member is uncomfortable with any directive, they must speak up in an effort to alleviate the discomfort for the sake of safety.

Studies have shown that a well-defined role structure reduces ambiguity and enhances each crewmember's performance. Each RPIC must find and practice a balance between a command role that is too overbearing and

one that is too passive. Balancing leadership and direction with acceptance and understanding is extremely difficult, yet provide a crew the requisite elements for success.

Effects of Drugs and Alcohol

It is extremely important that all persons involved in aviation activities, including all crewmembers regardless of their flight role, not be impaired in any manner. Therefore, all Springdale Land & Game personnel shall not at any time be under the influence of any psychoactive substance that might in any way limit their ability to perform their duties in a safe and effective manner.

Flight performance can be seriously hampered by prescription and over the counter medication. The Springdale Land & Game Manager and all members of the piloting team will be advised anytime such drugs are being taken. If it is determined that the medication being taken could hamper an operator, that member shall be prohibited from undertaking the mission until such time that the risk is no longer a factor.

Any member of the flight team who voluntarily reports being unable to perform flight duties due to medication or illness will not be punished.

Documentation

All flight logs should include the following information:

- Operator/PIC Name (Pilot in Command)
- Camera Operator (if present)
- Visual Observer(s) (if present)
- Who was at the flight controls if not the PIC (noted by a 'P' after name)
- Flight number (of that month)
- Date
- Time of day (morning, afternoon, noon (midday).
- Mission (client name or Division/Group)
- Airframe
- Location
- Weather
- Windspeed
- '#' number of batteries
- M/T Type (Mission or Training. written down as M or T)
- Flight duration (total flight duration in whole minutes with all batteries and battery levels)
- Altitude (specifically, Max altitude or standard work altitude in feet)
- Notes (Debrief moment! What could have gone better?)
- Concerns/Issues (Debrief moment! safety/Flight OPS changes.)
- Significant concerns regarding safety or maintenance issues should be noted in the log and also reported in detail to the UAS Coordinator

UAS Monthly Inspections

• _Walk-around
• _Crack in joints and structural members
• _Loose or damaged screws, ties, fasteners, straps
• _Loose or damaged wiring
• _Loose or damaged connections (solder, plugs, etc.)
• _Inspect prop mounts and screws and apply slight counter pressure on arms to check for loosened components
• _inspect/clean camera lens and insure it is secured and contacts are firmly attached
• _Camera settings are correct (still images, video, framerate)
• _Inspect FPV goggles and verify functionality
• _Batteries are fully charged, properly seated and secured
• _Obstacle avoidance system and equipment functioning and free of damage/obstructions
• _Test RTH (Return To Home)
• _Check for updates to Firmware
• _Verify that firmware Airport proximity detection is functioning
• _Props are smooth and free of damage / defect (check blade, surface and hub)
• _Prop adapters are tight / secure
• _Ensure voltage or low battery alarms are connected and audible
• _Ensure motor start and stop control settings are functioning and are properly configured
• _Correct model is selected in transmitter (if applicable)
• Check RC transmitter shows the right range and centering for all sticks
• _Perform compass/GPS calibration
• _Perform IMU (Inertial Measurement Unit) calibration
• _Perform range test
• _Verify that altitude and range telemetry are accurate

Public Awareness

• _Be courteous and polite
• _You are an ambassador, and your actions will affect other pilots and the industry in general
• _Be professional / appear professional
• _If the flight plan will have the aircraft hovering over or adjacent to private property, attempt to notify and inform a resident mission intent, duration, and scope